Kiefer–Tunascape: Ocean Circulation and the ETPO Tuna Fishery

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During my poster session, I will present findings of how the Equatorial, Equatorial Counter, and North Equatorial currents shape the distribution of the skipjack, yellowfin, and bigeye tuna caught by the purse seine fishery of the Eastern Tropical Pacific Ocean. These findings are largely based upon matching in time and space fisheries data with satellite imagery of sea surface temperature, chlorophyll, and height as well as simulations with NASA's ECCO-Darwin biogeochemical model. To analyze such imagery, we have built algorithms to release and track drifters to trace water movement as well as algorithms to map mesoscale vorticity and convergent and divergent flow.

I will also demonstrate our TunaScape geographical information system that provides tools of data integration and analysis to speed the process of defining species habitat and then mapping a species distribution. These tools may aid your own research, since they can be applied to a broad range of ecological studies.